THE

# HORTICULTURAL REGISTER

AND

# GARDENER'S MAGAZINE.

APRIL 1, 1835.

---

## GLADIOLUS CARDINALIS.

The drawing on the other side, of this splendid Gladiolus, was taken from a plant raised by the writer; it had a succession of nine flowers from the spike, of which that in the figure was largest, as is usual with most first flowers; the figure is about two thirds the natural size. It belongs to the family of Iris, called Irideæ in the natural arrangement in Botany, and to Triandria monogynia (three stamens and one pistil,) in the Linnæan system; this character is very evident in the drawing, although the single pistil is divided at the summit into three parts called styles, being as it is termed trifid.

This is one of the numerous and beautiful bulbous plants which are natives of that part of Africa around the Cape of Good Hope. The soil in which it thrives most is a mixture, about two thirds sandy loam and one third well decayed leaf mould or peat earth; this should not be sifted fine but chopped with the trowel, and if possible contain rotted fibres of the roots of woody plants which prevent it from concreting into a hard solid mass by constant watering, and allow the roots of the bulb to push easily through every part, and draw as much sustenance as possible. Being originally from a warm climate, they require to be planted in pots, and brought forward in the green-house. The pots should be of large size, well drained by about an inch depth of small broken potsherds placed at the bottom, so that all superfluous

water may readily run off, which would otherwise decay the bulb. By keeping it in a dry cool place, however, I do not doubt that the vegetation might be checked until the beginning or middle of May; then even those who do not possess green-houses might enjoy the pleasure of cultivating this splendid tribe, protecting them in the parlor until all chance of frost was over, then plunging the pots into the open border, or planting them at once in the border six inches deep, out of the reach of early frost, as is done with Tigridia pavonia, the Tiger flower. The farther success in treating these plants is founded on their habits in their native country, where they remain for several months exposed, in sandy beds, to the heat of an almost vertical sun, which ripens and concentrates the juices of the bulbs, so that when the rainy season arrives they quickly shoot up their spikes of beautiful flowers; therefore when beginning to grow they should be plentifully supplied with water, which must be continued until the flower is past its prime and the leaves begin to turn yellow; the pot should then be taken up, and exposed as much as possible to the heat of the sun, protecting the plants carefully against rains and moisture. Previous to probability of frost, the bulbs may be taken out of the earth and placed on a warm shelf of the green-house or in the cellar, where they are secure from freezing. Peat earth and leaf mould, when in actual contact with the lower part of the bulb where the roots originate, are sometimes apt to produce decay. I have therefore always been in the habit of putting half an inch of sand in the hole where it is planted to prevent this consequence.

It would be better, as before mentioned, to plant five or six inches deep, but this is impossible in pots already made shallow enough by the drainage; therefore if the crown is covered one quarter to half an inch, it will be sufficient.

Outside the south front of the celebrated green-house belonging to Messrs Loddiges, near London, which is the largest and loftiest known, being seventy feet high, there is a narrow border devoted to tender Cape bulbs, such as Ixiæ gladiolus, Antholyza, &c. They are planted deep enough to be out of reach of the frost, are protected during the winter with litter and mats, and they increase and flourish amazingly. At Messrs Colvilles — also celebrated nurserymen, near London — they are grown in pots protected by brick pits, glazed and well covered against frost.

There are a great many varieties of the Gladiolus, both found native and produced by hybridizing. In this latter process the Hon.

and Rev. Mr Herbert of Spofforth, in England, has been eminently successful. Gladiolus blandus is white, with a very light roseate tint; I cultivated a beautiful hybrid between this and cardinalis, then called Blandus cardinalis, but which has since received the appellation of G. spofforthianus. G. colvillii is extremely handsome. G. hastatus (bearing a spear) is delicate white, with a most elegant bluish mark, somewhat resembling the head of a spear, inclosing the white space observed in cardinalis. In cultivating this and all other bulbous plants, the fact must never be lost sight of, that the bulb is, during the summer, a species of underground continuation of the leaf, while in the winter it is analogous to the bud of a plant; therefore any injury to the leaves, during their growth in summer and autumn, is an injury to the bulb; when these have performed their functions of preparing and elaborating the juices for this subterranean bud or bulb, they die away naturally; leaves of bulbous plants should therefore never be trimmed or cut off, with a view of making them look more sightly, unless they have turned brown. On the other hand, forming and perfecting the seed withdraws considerable nourishment from the bulb; it is, therefore, rather a benefit than an injury to cut the flower and prevent the seed from coming to maturity; the juices are then diverted from this operation to that of increasing and improving the bulb.

As there is a figure which will assist in elucidation of the subject, it seems opportune to appropriate part of this article in explaining to the uninitiated the process of hybridizing and impregnating the seed.

From the centre of the flower (corolla) three filaments may be observed, with curved tops, which are called stamens; the tops are called anthers, and are cells containing the pollen (*pollen* is the Latin word for small dust;) as soon as this is ripe the cells open and eject it; of course, as nature intended, part falls on the styles or the summits of the other single filament, called pistil, which in the instance of this flower is trifid.

The filament which forms the pistil stands on the top of the seed vessel, and may be imagined a tube filled with smaller tubes or vessels through which the pollen shed on the styles communicates with and impregnates the seeds, in a manner as yet but little understood; these then begin to swell, perfect, and finally ripen. I trust this explanation will enable any one to understand that when the pollen, for instance of the Scarlet Gladiolus is placed on the pistil of a white one, it will of course communicate a portion of its general nature,

as color, shape, &c. to the seed it impregnates; hence this seed will produce a flower containing qualities belonging to both; this is called a hybrid. Thus a hybrid between the red and white Camellia would probably be striped red and white. These hybrids have often very valuable qualities besides their beauty; they are frequently more hardy, and very frequently more prolific in flowers than the originals, though in some cases they do not produce seeds. I am hardly acquainted with the method employed by the most celebrated hybridizers, and should be very happy to receive communications and instructions on this subject. My way has been, when the flower is in the state of the bud in the drawing, to open it very carefully, and then extract the anthers with a pair of tweezers or pincers, before they can have opened and shed their pollen on the pistil, which will then be found with the trifid divisions closed. As soon as the flower, thus deprived of its anthers, has opened and the styles have separated as in the figure, take the ripened pollen from the anthers of the flower you wish to mix or impregnate with, either with a small piece of cotton, a camel's hair pencil, or the fine point of a penknife, and shed it on the styles so that it remains sticking there; this will impregnate the seed.

It is now, however, necessary to prevent this flower from receiving, by means of insects or the air, pollen from any other flowers of the same species, either of its own spike or from others; for this purpose I have generally tied a piece of very fine gauze or India muslin over the flower, so as entirely to protect it from farther impregnation.

When the petals are fading it will be perceived by the swelling of the seed vessel whether the purpose in view has answered. Should it have been successful I remove the muslin, and generally allow some of the other flowers of the spike to proceed in growing, to draw up the juices from the earth, but remove their seed vessels as they appear, in order to throw the whole strength of the plant into the hybridized seed; observing that the first and second flowers of a spike, if perfect, are more likely to succeed in this operation than those later in bloom.

It is probable that many varieties of the same flower now considered a species, have been thus produced naturally; certainly many very beautiful additions to the flower garden have been thus artificially brought into being. It may be readily imagined how amusing this employment is to the man of leisure, and to the gardener it has been for some years a source of large profits; the Pelargonium

(Geranium) daveyanum, now quite common here, was produced in this way, and I believe the owner did not dispose of any until he had some hundreds ready, which he sold at a guinea each plant.

Taking again advantage of the drawing, I would point out to beginners in botany a distinguishing mark of this species, that the flowers on the spike are what is termed secund or unilateral, that is on one side only of the flower stem.

The Gladiolus is propagated by seed or by offsets of the bulbs. Large ones may be taken out of the earth and kept in any dry place; but seedlings and small offsets should be left in the pots of earth if possible, being more apt to dry up if removed; they must, however, be kept out of the reach of frost, except Byzantinus, Communis, and roseus, which are tolerably hardy.

I fear G. cardinalis is hardly yet to be met with in the seed stores in Boston, but I trust it will soon become as much cultivated as its beauty deserves. In the meantime it may easily be procured from Holland or England, where it is not a dear root. J. E. T.

---

[For the Horticultural Register.]

## ON THE CULTIVATION OF CYPRESS VINE AND OTHER TENDER ANNUALS.

There are many beautiful annuals, the seeds of which are every year worse than lost for want of a few plain instructions, as to the time, manner of sowing, &c. One of the most pleasing, when properly managed, is Ipomæa quamoclit, (Cypress Vine,) and yet it is doubtful whether one out of twenty who attempt to cultivate it succeed. If sown with other seeds about the first of May, as is customary with many who bestow but little time upon the flower garden, the seeds rot in the ground, or if they vegetate, do not appear much before July, and it hardly commences flowering before it is destroyed by the autumnal frost.

The seed should not be sown in the open ground until the last week in May; previous to which boiling water should be poured upon it; this facilitates the vegetation, causing it to appear in about a week if the weather is warm. It will not grow without heat. In this way it may give tolerable satisfaction to those who have not seen it growing in perfection. The only way the splendor of the plant can be de-

veloped in this climate, is by artificial heat. The same may be said of nearly all the tender annuals. The expense of a frame and lights for a hot bed is small, and once procured lasts for years. The manure that is necessary is not injured any more than it is by the fermentation which many farmers suffer to take place before applying it to the ground. Every man that has a garden, should have a hot bed, a part of which should be devoted to flowers, if there is any taste for them in his family; if not, they are to be pitied. So many directions for making and managing hot beds have been published, that I think it inexpedient to say a word upon the subject, but proceed to state how the Cypress Vine may be raised in them to give ample satisfaction. The seed should be sown about the first of April, in the smallest sized pots, five or six seeds in each, and plunged into the bed before the violent heat has subsided. As soon as the plants appear, which will be in three or four days, according to the heat of the bed, air must be given, or the tender seedlings will be destroyed. If the heat of the bed has been kept up, by the last of the month they will have made considerable progress, the pots will be filled with roots, and it will be necessary to shift them into larger pots. During the month of May give plenty of air in fine weather, but nearly close the lights when cold and chilly, as the heat in the bed will have declined; at night, if the weather is as severe as some we had last May, cover the glass with mats. Only three plants should be left in each pot. It will begin to flower by the first of June or sooner, but be not in haste to get them out of the frame; it is a very tender plant. The sashes should now be taken off during the day, putting them on again at night, if cold. By the 10th of June, and not before, the plants may be turned into the ground very carefully, not disturbing the roots. The ground should be made rich with well rotted manure; the plants should be placed at the distance of one foot, or a foot and a half if the object is to cover a wall or trellis. I have covered a trellis by the middle of August, 25 feet long and 5 high, with its elegant feathery foliage, so as to form a complete screen. The flowers, like those of the Morning Glory, appear in the morning and perish before noon; they are of a deep crimson color, and contrast finely with the rich green of the leaves. There is another variety with white flowers. It should be sheltered from the northerly winds by a fence, trees or buildings. An elegant cone may be made by setting a straight pole substantially into the ground eight feet high from the surface: describe a circle round it whose diameter shall be

three feet; let about ten pots be turned into this circle; drive down a stake by the side of each nearly to the surface, to which tie a strong twine that may be stained or painted green; let it be carried to the top of the pole and fastened there, then brought down to the next stake, and so on until the whole is completed. With a little assistance the vines will climb the strings, and before the first of September it will be at the top of the pole, making a splendid show, more than paying for all the trouble. It may be trained over an arch, or any other way fancy may direct.

Canna indica (Shot plant) may be planted in great heat like the Cypress. This is desirable not only for the beauty of its spikes of scarlet flowers, but also for its elegant foliage, and particularly to the botanist as it belongs to the small class Monandria (one stamen) which in this region furnishes but few examples. There are many species in large collections, all handsome. It becomes a large plant before autumn, four or five feet high, with deep green leaves, two feet long and six inches in width; perfecting seed which is round, black, and hard, having the appearance of large shot. It belongs to the natural order Canneæ, mostly tropical plants.

Celosia cristata (Cockscomb) may be seen in most gardens; very pretty, to be sure, but a very different thing from that which has been forwarded in hot beds. The following account may be found in Loudon's Encyclopædia of Gardening which I insert to give some idea of what may be done by artificial means. "Knight, in October, 1820, sent to the Horticultural Society a Cockscomb, the flower of which measured eighteen inches in width and seven in height, from the top of the stalk; it was thick and full, and of a most intense purple red. To produce this, the great object was to retard the protrusion of the flower stalk, that it may become of great strength. The compost employed was of the most nutritive and stimulating kind, consisting of one part of unfermented horse dung, fresh from the stable, and without litter, one part of burnt turf, one part of decayed leaves, and two parts of green turf, the latter being in lumps of about an inch in diameter, in order to keep the mass so hollow that the water might escape and the air enter. The seeds were sown in the spring rather late, and the plants put first into pots of four inches diameter, and then transplanted to others a foot in diameter; the object being not to compress the roots, as that has a tendency to accelerate the flowering of all vegetables. The plants were placed within a few inches of the glass, in a heat of from 70° to

100°; they were watered with pigeon dung water, and due attention paid to remove the side branches when very young, so as to produce one strong head or flower."

Loudon in his Encyclopædia of Plants adds: "Had the shifting from pot to pot been more frequent, it appears probable the size might have been still greater." Not having taken any special pains, I cannot boast of anything like the above, yet many very fine heads of flowers were produced by me the last season, by the following process; the seed was sown the second week in April in a small patch, and when of a suitable size, pricked out in another part of the bed, two or three inches distant from each other; as the plants began to interfere, they were transplanted into another bed at a greater distance, and finally into the open ground the first week in June, carefully moving with the roots a ball of earth; shading for a few days with an empty flower pot, until they had taken fresh root. Afterwards little care was necessary but to remove all laterals, and tying to stakes to prevent their being prostrated by the wind.

The same process will produce fine Balsam plants, (Impatens balsamina) if good seed has been sown; if not, all the labor is in vain; the single varieties are not worthy of cultivation. Old seed is considered by some to be the best, as more likely to produce double flowers. The seed should be saved from double flowering plants only; all single flowering ones should be destroyed as soon as they appear. Most plants raised in a hot bed do better to transplant into small pots, and shift to larger as they increase in size. Balsams thus treated, sown the first of April will begin to flower the last of May, and may be turned into the ground in June, without checking their growth in the least. If the soil is rich and a little moist, or supplied with moisture, the plants will attain a monstrous size, and be completely covered with a profusion of flowers all the season. All the full double varieties are beautiful; some produce white and red or purple flowers on the same plant; others are variegated or spotted with various shades of red and purple, which are decidedly the most elegant.

Most of the tender annuals should be sown in the open ground from the tenth to the twentieth of May. Gomphrena globosa (Globe amaranth) of which there are two common varieties, the white and purple, and one rather rare; the striped are desirable for their heads of flowers, which if gathered before they are too far advanced, will retain their beauty several years. To have them in perfection the

management should be the same as with the Balsam. The seed is difficult to vegetate in the open ground; soaking in milk 12 hours is recommended; scalding, perhaps, would do better.

A powerful heat in the hot bed will start it quick, and destroy the plant also, unless care is taken. Gomphrena is said to be a name applied by the ancients to a plant bearing red and green leaves on the same stem; probably our Amaranthus tricolor, which is a well known tender annual of some show. I have had poor success with this for a number of years past; the plants have been attacked by a small worm at the root which has caused them to wither and die. Xeranthemum lucidum or Elichrysum bracteatum (Golden Immortal flower,) is much admired for the brilliancy of its shining golden flowers, even in their dried state, and are therefore much prized, as ornaments for vases, &c. It is more hardy than the preceding, but is much more luxuriant when raised in a hot bed than in the open ground. Xeranthemum annuum (Immortal flower) is perfectly hardy, and may be sown in the open ground any time in April or in the fall.

*Lancaster Hort. Garden.* Jos. Breck.

---

[For the Horticultural Register.]

## ON THE CULTURE OF MILK-WEED. — (Asclepias Syriaca.)

Some four or five years since, in a conversation with George Manners, Esq. the British Consul for Massachusetts, on the various kinds of edible vegetables, cultivated in our gardens, he observed that, during a recent visit to Canada, he was informed that the young shoots of the Milk-weed were used as a substitute for asparagus, and asked me if I had ever heard of their being cooked in the United States. I replied, that I perfectly recollected, when a boy, my mother often had them gathered from the fields and road-sides, with the dandelion, shepherds' sprouts, nettles, and other plants, which were collected as greens; but that I had never seen the plant thus used elsewhere, or heard it named as a culinary vegetable; but that I certainly would make an experiment in its cultivation, and as to its qualities, as an addition to our garden pot herbs.

Having collected the seed in the autumn, it was sown early in the spring in drills, and covered an inch deep. They came up freely in four or five weeks, and when the plants were two years old, I took up

a portion of the roots, and set them out about eight inches apart, in a trench six inches deep. The ground had been manured and thoroughly dug over, previously to forming the trench. The following spring, when the shoots were four or five inches high, they were cut, tied up in bunches, boiled and served up with melted butter, like asparagus; and they were as tender, and to my taste quite as delicious a vegetable, resembling in flavor the youngest and most delicate string beans.

As the plant is very hardy, exceedingly prolific, easily cultivated, and such a valuable addition to our early vegetables, I consider a bed of it nearly as desirable as one of asparagus.

No better mode of cultivation can be adopted, than that for asparagus, as described by Mr Chandler, in his interesting, instructive, and able article, which appeared in the third number of the Horticultural Register, — except the roots of the milk-weed should not be covered more than five or six inches deep.

Mr Chandler is entitled to the gratitude of his fellow citizens for the valuable result of his experiments; and I freely declare that the mode he adopted and recommends, is the very best which I have ever seen published. I can confirm it, by having followed a similar process, but by no means so perfect in all its parts as that which he has so successfully tested. As a practical, intelligent, zealous and enterprising tiller of the earth, he has no superior in this State; and the commendable gentlemen who have established a Farm School on Thomson's Island, could not have made a better selection in a superintendent of the art of cultivation in all its branches.

Asclepias *(Swallow-wort,)* is a numerous genus of plants, there being fortytwo species, which have been described by botanists, two of which only are found in Europe, but three in South America, while there are eighteen indigenous to the United States, and the others are divided between the West Indies and Africa. Many of the varieties are cultivated as ornamental plants in England and France, but the following kinds, natives of this country, are considered the most beautiful, besides being more hardy than those of more southern climes; still many of the latter are considered worthy of the green-house.

1. *Muschata*, so called by Bartram, for its strong and agreeable musk scent, is peculiar to the natural meadows of South Carolina, Georgia, and Florida. It is a low plant, of not more than five or six inches in height, with flowers of a pale green color, inclining to yellow.

2. *Venosa* has leaves elegantly variegated with white and crimson veins, and the stems terminate in an umbel of pale flesh-colored flowers.

3. *Pulchra*,— Water-silk-weed—Has nearly erect stems, four or five feet high; umbels very small; flowers crimson purple. Grows on low, wet land, by the side of ponds.

4. *Variegata*,— Variegated. Leaves rough, umbels compact and come out from the side of the stalk; flowers of an herbaceous odor.

5. *Nivea*,— White, or Almond-leaved. Stalks two feet high, and of a dark green. Leaves deep green above, and pale beneath, smooth and rather stiff. Flowers green, with white nectaries.

6. *Incarnata*,— Flesh-colored,— Has several upright stalks about two feet high, at the top of which are produced close umbels of purple flowers. Blooms in August.

7. *Decumbens*. The stalks are declining, hairy, a foot and a half high; leaves narrow; umbels compact, at the extremity of the branches; flowers a bright orange color.

8. *Verticillata*. Stalks slender, upright; umbels at the extremity of the stems; leaves in whorls of four, five, and six together; flowers small and of a greenish white color. Found in Roxbury and Dedham; blooms in July.

9. *Tuberosa*,— Butterfly-weed. Root large, fleshy, branching and somewhat fusiform, but it is only by comparison with other species that it can be called tuberous; stems numerous, growing in bunches from the root, hairy and dusky red; flowers numerous, erect, and of a beautiful bright orange color; grows in Woburn and Newton; blooms in August.

10. *Obtusifolia*,— Blunt-leaved. Stems erect, supporting a terminal umbel, at a distance from the leaves, which are opposite, ovate, heart shaped at the base; flowers large, of a greenish white, tinged with red; it is found in Cambridge and Mount Auburn; blooms in July.

11. *Phytoloccoides*,— Poke-leaved. A tall, large flowering species, of a delicate appearance; stem erect, four or five feet high; leaves large; umbels nodding, flowers large, petals green, nectaries white or flesh colored; grows in low grounds; blooms in June.

12. *Purpurescens*,— Dark-flowered. Stem erect; flowers of a dark crimson purple; grows in Cambridge and Newton, but is rare.

13. *Quadrifolia*,— Four-leaved. A delicate species, growing in

dry woods; stem about a foot high; flowers flesh colored; is found in Roxbury and Brookline, and blooms in June.

14. *Viridifolia*, — Green flowered. An inelegant species, with small greenish umbels; is found in Leicester; blooms in July.

For the description of the third and sixth preceding species, I am indebted to Dr Bigelow's excellent work, on the plants in the environs of Boston. There is a beautiful colored engraving of No. 9, and a more particular account of it, in his other most able and splendid publication, called Medical Botany.

15. *Amoena*, — Oval-leaved. Stalks from a foot and a half to three feet high; at each joint are two large leaves, which are blunt, thickish, stiff, smooth, with purple nerves; umbels rise from the top of the stalk and some of the upper axils; flowers of a bright purple color.

16. *Rubra*, — Red-flowered. Stem upright; umbels many, from the same common peduncle; a native of Virginia.

17. *Parviflora*, — Small-flowered. A native of South Carolina and Florida.

18. *Syriaca*, — Milk-weed, or Silk-weed. This species abounds all over our country, and for the many useful purposes to which it may be applied, is deserving of especial attention. The root is perennial, and in April or May throws out, like asparagus and hops, a great number of shoots; the stems rise to six or seven feet in height in a rich soil. When the leaves or stems are broken off, a milky substance, of a viscous consistence, exudes, from whence the plant derives one of its most general trivial names. The flowers appear in July, and are in umbels of from twelve to sixteen on one stem, each containing thirty or forty single flowers, which adhere to the umbel by a long slender stalk, and has a sweetish odor. Each bunch of flowers is succeeded by three, four, and sometimes ten long, flat and rough pods, which enclose numerous round, flat, thin, yellowish brown seeds, wrapped up in a beautiful shining white and soft kind of silk, which constitutes their wings, and by means of which they are conveyed with ease to a great distance by the wind; it has also given rise to the other trivial name, by which the plant is known in some parts of the country.

The great utility of the Syriaca or Milk-weed in the arts, has not been understood, but since the middle of the last century, although it was introduced into Europe at a much earlier period.

A manufactory of articles from the silk was established in Paris in

1760, and it has long been employed at Louzanne, with advantage, as candle-wicks. Mr Schneider of Liegnitz, has been distinguished for the zeal he has evinced, in relation to the cultivation and preparation of this article, and has recommended it in two different pamphlets.

In the application of it to paper making, Mr Schmid of Lunenburg made a variety of very interesting and instructive experiments.

The cultivation of the plant has been found very easy. Mr Schneider began in 1785, with but six plants, and in 1793 he had a plantation of 30,000, which yielded him 800 pounds of silk the first crop, 355 the second, and 600 the third. They were planted in rows about two feet apart, with a sufficient distance between the roots in each row. The silk was separated into two parts, the longer being used for spinning, and the shorter for hat making and beds.

Mr Schmid, who was an ingenious manufacturer of paper, made several experiments with the capsules, or pods, which gave the following results:

1. From the interior white rind of the pods he obtained writing paper, pretty white, of good quality, and similar to the silk paper of the Chinese.

2. From the external green part of the pods, a greenish colored paper was made, which, when sized, was stronger than paper made from rags. It was almost as close in its texture as parchment, and even when unsized did not suffer the ink to pass through it. It was excellent wrapping paper.

3. From the bark of the stems he obtained a paper so like, in everything, to paper made from rags, that the difference could scarcely be distinguished.

The silk when taken from the pods, and being freed from the seeds, is hung up in thin bags in the sun, and when perfectly dry, may be used without any further preparation, instead of feathers, horse hair, wool, or cotton, for cushions, bolsters, pillows, mattresses, and coverlets. From eight to nine pounds is sufficient for a bed, bolster, and two pillows. It is lighter and warmer, when used in forming coverlets or comforters, than cotton or wool, and is nearly equal to eider-down.

For spinning, the staple of the silk is too short, when taken alone, and therefore is combined with flax, wool, cotton, or raw silk.

One third of this silk, with two thirds of cotton, forms a very excellent mixture for gloves, stockings, and other articles of like manufacture. One part of this silk and two of rabbit's fur, forms

hats exceedingly light, soft to the touch, glossy, and which have a great resemblance to beaver hats.

The plant throws around it, long roots with new eyes; these can be cut off in autumn or early in the spring, before the milk flows, and may be divided into pieces from four to six inches long, which may be planted in trenches, four or five inches deep, in an oblique position, with the eyes or buds standing up.

Where the plant grows wild in abundance, a bed for culinary purposes could be easily formed, from the roots in the manner above described, and would be fit for use the second spring; by which two years would be gained over plants raised from the seed.

Besides the above named articles manufactured from the silk, I recollect having seen, at several of the annual exhibitions of the Massachusetts Agricultural Society, in Brighton, tippets, capes, bonnets, and various other articles, which were very beautiful. They were formed by sewing the tufts of silk by the part which is attached to the seed, to linen, cotton, or silk cloth in rows, one overlaping the other, like the shingles on a roof. They had the appearance of the most delicate and rich fur; and so simple was the work that a child could execute it.

For embellishing the outer borders of pleasure grounds, the skirts of roads, avenues, clumps of trees, the sides of groves, and to intermingle with shrubs, all the American varieties may be used with picturesque effect.

On examining some botanical works since writing the above, I found that Parkinson had received the *Syriaca* from this country, and cultivated it in his botanical garden of rare plants, as early as 1629. He called it Virginia Silk, and it was stated that the French Canadians were in the habit of eating the tender shoots as substitutes for asparagus.

It is but little trouble to form in every garden, side by side, beds of dandelions, sea-kale, milk-weed, and asparagus, which, from the last of March, until the green peas appear, will afford a daily and various supply of delicious vegetables. They are all perennial plants, and when once set out, and properly taken care of in autumn and spring, will yield abundant crops, for all time, without removal.

H. A. S. Dearborn.

*Roxbury, March 9th*, 1835.

## IMPORTANCE OF EXPERIMENTAL HORTICULTURE.

To the Editors of the Horticultural Register.

SIRS: — There are few if any of the sciences in which ingenious and rational theories are more frequently disproved by practice, than in Horticulture and Agriculture. This is a postulate which, I believe, no practical man will attempt to dispute. Even the scientific theories of the immortal Davy have been, in some instances, found erroneous, and the apparently incontrovertible reasoning by which his inferences were maintained, has proved inconsistent with practical results. On the other hand, the prevalence and antiquity of any practice are no certain proofs of its superior excellence In *Horticulture* and *Agriculture* careful and repeated experiments can alone establish unerring principles.

Experiments are of two kinds — *mediate* and *immediate*. The first consists of those which lead to the other, such as investigations relative to the generation and circulation of sap; the food of particular plants, and the soil best adapted to their growth; the *modus operandi* of manures, &c. &c.; while the object of the second is to obtain an immediate benefit; such are those which enable us to promote or retard the accumulation of sap and render it subservient to particular purposes, to ascertain the crops best suited to different soils, the manner in which such crops can be most profitably produced, the manures and quantity thereof that can be most beneficially expended in their culture, &c. &c.

Experiments cannot prove extensively useful unless their results be generally promulgated, and such publications as the *Horticultural Register* furnish the best means not only of effecting this, but of suggesting such subjects of experiment as will prove most useful. Through this medium I would propose the following to such of your readers as are enabled and disposed to devote a portion of their time to objects of private and public benefit. The importance of correctly determining the distances from each other at which vegetables may be most advantageously planted, cannot be doubted; if each individual plant should occupy half a square foot more space than is sufficient to secure for it all the food, shelter, light and air which it requires to attain perfection, a large proportion of every acre so cropped therewith must prove wholly unproductive; and if, on the contrary, less than is required be afforded, the produce of the acre

will be materially diminished; and yet how various are the opinions expressed by various agriculturists and horticulturists on this interesting subject, even with respect to the same plants and soils.

The first experiment which I would suggest is calculated to obviate this discrepancy, and may be conducted in the following manner; let a certain number of equal contiguous squares, say eight, be accurately marked out, after the whole has been similarly prepared and manured; then insert the plants at four different distances, as in Figure 1, so that the spaces between them may not be the same in adjoining squares.

| | | | |
|---|---|---|---|
| A′ | B′ | C′ | D′ |
| C″ | D″ | A″ | B″ |

Fig. 1.

The plants in the two squares A′ A″ may be placed one and a half feet apart, each way; those in B′ B″, two feet; those in C′ C″, two and a half feet; and those in D′ D″, three feet; or any other distance may be chosen which the nature of the plant that is the subject of the experiment may indicate; the whole must be similarly treated during growth, and the produce of each square, when mature, separately and correctly measured; a certain criterion will thus be established, at least so far as respects the plant and soil employed, and those of a similar description. It is my intention to subject Savoy cabbages, and Mangel Wurtzel to such experiments the approaching season, and I hope others will do the same, and publish the results in the *Horticultural Register*, together with all the particulars of culture. The distances most *profitable* in the cultivation of Indian corn and potatoes may be ascertained in like manner. With respect to these, and to peas and beans, I would suggest the following experiment, (which I shall also attempt,) to determine whether in dry soils it be more advantageous to plant them in rows left *concave*, or by earthing rendered *convex*, during their approach to maturity; to guard against the effects of variation in the soil and shelter I would recommend that each row should be equally divided and the plants arranged as in Figure 2.

Figure 2.

I would caution the operator, in conducting his experiments to exercise the most rigid impartiality and not to be influenced by long indulged prejudices or the desire of maintaining favorite preconceived theories. I remain, very respectfully, yours, QUIVIS.

*March 6th*, 1835.

---

## ON THE GRAPE, AND THE MANUFACTURE OF WINE.

THE culture of the Vine, both under glass and in the open air, is now so well understood in this country, and so much has been written on the subject, that it seems almost hopeless to produce anything new or interesting on this too much exhausted topic. On the other hand, a work professedly Horticultural appears to many incomplete unless it lays open a practice or professes a creed in the cultivation of this most ancient, and in its prepared state, most exhilarating fruit.

The soil congenial to the perfection of the grape is still in some points a matter of considerable dispute. The German vine growers on the Rhine insist most strenuously that no flavor can be obtained without animal manure in quantity ; but in one large wine district in the South of France, it was forbidden, by a public decree, to manure the vine, as it utterly destroyed the delicate quality of its produce; and in Portugal, throughout the vineyards where the finest Port wine is made, they universally abandoned the practice of laying long litter with manure around the roots of their plants, from the complete conviction by experience that it deteriorated the character of their wine. On this subject, it is not impossible that manure may be more requisite in a cold than in a warm climate; much more may also depend on the original nature of the soil. My own experience would lead me to prefer a very light, deep, and rich soil, well drained at the substratum, and at all events to avoid one that is strong, clayey, and which obstinately retains moisture, as it generally imparts an earthy taste.

Volcanic soils are also very suitable to the vine, as is sufficiently exemplified by its luxuriant growth in many parts of Italy, in Sicily, and Madeira. The district in Hungary where the celebrated Tokay

wine is made is also volcanic; but from all I can learn, manure is much in use in these vineyards. I should certainly not think of planting the vine here without considerably manuring the soil.

Mr Metzger, Curator of the Botanic Garden at Heidelberg, in Germany, has published a work on the cultivation of the vine on the banks of the Rhine, in which he estimates the different values of soils produced by the decomposition of various rocks, with regard to this plant. That from granite, sienite, and felspar porphyry, which abound in Massachusetts, furnishes a very excellent soil. Clay (argillaceous) slate, he says, by its decomposition, supplies a very fertile soil; if the sand (quartz) which often runs in veins in this rock, is mixed, it becomes lighter and more fit for retaining heat. The deep color peculiar to this kind of earth, increases also its temperature; and it is the most favorable soil for the vine. Prof. Hitchcock, in his late valuable work on the Geology, &c. of Massachusetts, the practical utility of which will become every day more apparent and acknowledged, after reciting that this soil, though slightly differing, is found in the vicinity of Boston, at Quincy, in Worcester, Franklin and Berkshire Counties, says every variety, however, furnishes by decomposition a dark colored soil, which, though apt to be cold, is capable of being made very fertile, and adds that Professor Dewey says the argillaceous district in Berkshire is more fertile and productive than any other portion of the section, except the alluvial. The clay soil formed from the decomposition of shell and marl, and the mud of land gained from swamps, &c. is the least favorable.

The climate in Europe which produces the finest grapes, and consequently the richest flavored wines, is situated between the 35th and 50th degree of north latitude; beyond these northern limits the fruit is more acid, and further south the sugar of the grape becomes too much concentrated, and the aromatic essence, which constitutes the peculiar flavor, is greatly dissipated by the heat.

The climate of the United States differs, however, materially from that of Europe, and much experience and many recorded facts are, therefore, yet requisite to fix certainty on this point. I hope now attention is so completely awakened to this subject, it will not be long ere the vine will be raised in sufficient quantities to supersede the necessity of such large importations of foreign wine. It must be strange if in some parts of the United States better wine cannot be manufactured than that imported from the Greek Islands and Sicily,

large quantities of which are annually used to mix with Madeira and Sherry, and sold as such.

As respects planting the vine, I have certainly some faith in the theory of Mr Mearns, as exposed in the coiling system, corroborated as it is by a valuable correspondent in the last number of the Horticultural Register. In Paxton's number of his Register for January, Mr Mearns states that one coiled rootless branch of the purple Constantia vine, introduced into the house 30th March, 1834, produced that summer thirtyfive bunches of well matured grapes, many as fine as were ever seen on a purple Constantia. He had begun forcing some coiled the previous season.

The outline of his plan is to create a large proportion of roots, thus drawing, compared with the upper part of the plant, considerable sustenance from the earth. In the few vineyards I visited in France, which was early in the spring, no plant was above four feet high, and the ground was manured, consequently the roots must have been large compared with the upper part, and well fed. About the mouths of the river Rhone where the vine is extensively cultivated, they dig a trench which they fill with thorns, brambles, cuttings of hedges, and prunings of all descriptions, on which they place a good layer of fresh earth; when this has settled down a little they plant the vines; the roots find their way readily among the earth, which does not cake into a solid mass, the moisture drains through rapidly, and the plants soon produce fruit. One vineyard planted in this way in 1828, gave a very fair crop in 1829. The wood of those I saw was thick, plump, aud the buds at short distances from each other, appearing as if ready to burst with health. The long wiry stems, generally the shoots of the later periods of the year, being carefully cut off. Much pruning, and consequently bleeding, might be avoided if the system of disbudding or rubbing off the buds were judiciously adopted.

The produce of many vines, both under glass and in the open air, is lost, from leaving on them more fruit to ripen than the strength of the plant can bear; consequently none come to maturity; this may and ought to be prevented by timely thinning out; but it would be better avoided altogether by attention. The vine is excited early and strongly, that it may shew a large crop of flowers, and the fruit set well; this succeeds, but in so doing the roots have considerably exhausted the juices of the earth which surrounds them; during the succeeding hot, dry weather, the appetite of the roots rather increases, they require at least an equal supply of nourishment as when first

starting; for want of this the fruit does not ripen. Stir up the ground around the stem and roots lightly with a fork, and pour on liquid manure frequently; this will afford all that is wanted. In the coiling system, when properly managed, scarcely any but small and ill promising bunches will need to be thinned out, the plants being plentifully supplied with this liquid food. Any one may try the above system even without a greenhouse; it is simply coiling a long shoot of the vine inside a large garden pot, the coils touching the sides of the pot, which is then filled up with rich earth, two buds or eyes being left to shoot above the surface; while growing, setting, and ripening the fruit, it must occasionally be supplied with liquid manure. Of course it will not start so early as if assisted by artificial heat, yet if began soon and kept in a warm parlor until summer, it would no doubt yield a fair crop, and it is at least worth trying. The leaves of all plants in rooms should be occasionally gently washed with a sponge to keep them perfectly clean, or they will not remain healthy.

The sorts for the dessert depend much upon taste, some preferring one and some another. To make a rich flavored wine, however, it is absolutely necessary that there should be a large quantity of saccharine matter (sugar) in the grape. The ripe Muscadine of Portugal on analysis affords more than 25 per cent of concrete sugar. The wine from it is sweet and luscious. The Chasselas of Fontainbleau, although tolerably sweet in taste, is more watery, and yields sugar in small quantities; the wine is dry and indifferent. This last grape is supposed to have been introduced from Cyprus by Francis I. of France when he rebuilt and decorated the palace of Fontainbleau. It is seldom, however, that the grape commonly cultivated for the manufacture of wine is considered fit for the table.

When Count de Chaptal was Minister of the Interior in France he collected in the nursery of the Luxembourg Garden 1400 varieties, and Don Simon de Roxas, in his splendid work on the vine, enumerates 250 varieties cultivated in Andalusia alone; of 119 of these he gives distinct botanical characters.

The process of wine making is extremely simple. The juice is expressed from the fruit and placed in open vessels, where it naturally ferments. When this operation has continued as long as is desirable, it is placed in other vessels, as casks, which are closed up. After remaining some time in these casks, to settle and become clear, it is either bottled or remains in them. This appears extremely plain, yet there are many parts which require practice, if perfection is desired.

Some of these I will endeavor to elucidate from my own experience, having formerly made from 1 to 300 gallons of wine annually for my own family use, and being habitually an attentive observer of other domestic manufacturers of this article. It is true that the ripe grape was seldom the fruit used; it was either the raisin, currant, gooseberry, or elder. The philosophy of the art is, however, in all the same. If a brisk wine, like Champagne, is required, the fruit must be gathered just before ripe (the best imitation of this wine is made from gooseberries still green) and the fermentation should be carried on for a short time only in open vats; the liquor should then be put into casks with the bung hole open, and the remaining fermentation very gradually carried on there. It will then retain a large portion of the carbonic acid gas, which is formed during this operation; the setting of which free by the admission of the atmospheric air is the cause of its brisk effervescence when the bottle is opened.

When the fruit is gathered quite ripe the wine is of a full body and flavor, but if a sweet wine is wanted it should be made from fruit rather over-ripe. The famous Tokay wine is indebted for its luscious qualities to a number of over-ripe and dry berries immersed in it to produce this richness.

If the fermentation continues too long the liquor becomes vinegar; the vinous having been replaced by the acetous, ferments, and a great part of the alcohol or spirit evaporates; if this process is arrested too early it will be sweet and syrupy, only a portion of the saccharine substance or sugar being converted into alcoholic wine. This will, however, keep a long time sound, being preserved by the spirit already formed by the other portion.

Much of the success, therefore, in wine making depends on the manner of conducting the fermentation, and as this proceeds more rapidly in warm than in temperate weather, it requires close watching. About 65 degrees of Fahrenheit is necessary for the liquor to begin to ferment, but as it progresses the heat of the liquid increases to about 95 degrees. I always preferred a dry wine, and therefore permitted the process to continue some days in large open tubs and then poured it off into clean casks with the bung hole open, placed in a cool, not cold cellar, where it continued fermenting very gradually until the taste indicated that all sweetness had disappeared, yet without leaving the slightest acidity. I then closed up the bung quite tight and usually left it alone for ten or twelve months, when it was poured from the lees into clean casks or bottled off; it was generally better for

keeping seven or eight years. Some assert that each successive year, at the season when the fruit ripens, the wine ferments a little. I never found this the case, and consider it as one of those stories which gain credence merely as a tradition.

With currants and elderberries an addition of sugar is very requisite, there not being enough saccharine juice in these fruits to induce sufficient fermentation; with gooseberries, if ripe, little, and with raisins none is necessary. What sugar is used should be white, and dissolved in hot water previous to mixture, the brown sugar always giving a coarse taste of molasses to wine.

The climate of New England is almost too uncertain for vineyards. The grape plant, however, not being hurt so much by the hard frosts as by being started, perhaps, in the last week in April or the early part of May, and then the buds and opening blossoms are liable to severe injury from the succeeding rough and cold northeast winds, before the leaves have attained sufficient size to protect them. It also sometimes happens that severe frosts occur in September, before the berries are ripe. The first case may be met by planting where there is protection from belts of trees, or hills; the other is easier, although more expensively avoided, by tying up the bunches in coarse *black* muslin, which will *considerably* accelerate the ripening, and in case of need afford protection against slight frosts. This muslin if taken care of will last three or four seasons.

In the choice of sorts for the open air in a northern climate, I should always prefer the sweetest and richest of the early and hardy species, for making wine, as even if not perfectly ripe when obliged by the appearance of the weather to be gathered, they will still contain a large proportion of saccharine juice; although even a deficiency in this necessary quality may be artificially supplied to some extent by sugar, as will perhaps appear reasonable from the following observations.

The fruits generally used in making wine have each a peculiar aroma which is supposed to communicate the various flavors to different sorts of wines. This in the grape is very discernible in almost every distinct species, and is imagined to reside principally in the skin of the fruit. The seed of the currant affords a remarkable taste to the wine made from it, which is neither to be got rid of, nor disguised; any one who has tasted much of the common wine from the Cape of Good Hope must remember a peculiar flavor attached to all the sorts; now although warm weather may increase the secretion of this aroma, yet it stil exists in some measure, even in grapes raised

in the summer of a northern climate; it is probably an essential oil, dissolved by the spirit existing in the wine. But it has nothing to do with the secretions of saccharine juice which in the grape are almost pure sugar; therefore I think refined sugar may be admitted as a substitute where sweetness and richness is wanting in the fruit of the vine; and the peculiar aroma or flavor still retained, although it may not be so *strong* as that of wine imported from the countries where the climate is more favorable; and this is a deficiency not to be remedied artificially, although I have known imitations of the different sorts of wine attempted in large manufactories with some appearance of success.

The last observation the space allotted to other articles will allow me to make at present is, that I never added brandy or any spirit whatever to my manufacture, the process of fermentation, if properly conducted, rendering it altogether unnecessary. I frequently, however, distilled a spirit quite fit for chemical purposes from the lees left after bottling.

### TO MAKE THE LIQUOR PREVIOUS TO FERMENTATION.

*For Raisin Wine.*—Eight pounds of raisins, any rich common sort will do, to each gallon of water. Put them in a large tub, and stir thoroughly every day for a month; then press the raisins in a strong cloth or horsehair bag until quite dry and throw them away.

*For Currant Wine.*—To each quart of fruit put a quart of water, squeeze the fruit so as completely to take away skin, stalk, and seeds; add one pound white sugar to every quart of this liquor so mixed with the water. The sugar should be dissolved in as small a quantity of boiling water as possible, previous to mixing.

*For Gooseberry and Elderberry Wine*, rather less sugar is required. For grape wine scarcely any sugar will be required, if ripe and rich, and no water; but never having made wine from this fruit I am not able to give directions from my own experience.

The fermentation should be carried on for a short time time in open tubs, but how long depends on the weather; this operation always proceeding more rapidly in hot weather, from two to four days may be sufficient. Then fill your casks quite full, leaving the bung hole open; the mucilaginous part of the fruit and all the dirt will rise and flow out at the aperture, and as the wine sinks the cask should be kept filled quite full to the upper edge of the hole with

some of the liquor kept in a jar for this purpose. By degrees all the thick will have worked out at the bung, and it will assume a clear appearance. When it is wished to stop the fermentation, and this will depend on taste and experience, fill quite up, and close the bung hole tight as possible. In about ten or twelve months it will be fit to drink, or to put in clean casks, or bottled off to keep. I used to allow mine to ferment from three to six weeks, dependent on the circumstances above mentioned; observing that if left to ferment until the least tartness is perceptible the intended wine will scarcely ever make anything but good vinegar. J. E. T.

---

[For the Horticultural Register.]

## ON THE CULTIVATION OF QUICK SET HEDGES IN THIS COUNTRY.

The neat thick cropped quick-set (*Cratægus oxyacantha*) hedges in England are the theme of admiration with all who see them, and their general introduction into this country, would much improve the appearance of the landscape: we are enabled by the kindness of a friend to present to our readers, the following information respecting these plants.

In the Autumn of 1833, he ordered a large quantity from Holland of two years old quick, which arrived here sufficiently early to be planted round his grounds as soon as the frost was out of the earth.

The grass sod was pared off about two feet wide and laid on the top of the stone wall, two or three inches of good manure was dug in, and the ground well pulverized, the plants were unpacked and the roots immersed twenty four hours in water, after which they were headed down to about four inches in height, and planted in double rows firmly in the earth at the distance of four inches from each other. Of the whole quantity so planted, not more than three or four failed. It is of great importance to soak the roots in water, as some with which this process was not adopted, failed entirely. It is also necessary to observe that for the fourteen days following the planting, rainy weather prevailed—which no doubt contributed much to the success of the operation, and should contrary weather set in, watering in the evenings would be recommended.

These hedges require clipping every Spring with shears, previous to

the bursting of the buds; they are otherwise apt to grow straggling, thin and unsightly. This operation, however, if done annually, requires but little time and labor, which is amply repaid by the neatness and beauty of their appearance. If such a hedge is planted as a fence round a pleasure garden, about twelve to eighteen inches fine turf border between the plants and the walk, neatly kept, makes a beautiful finish.

In Europe, these plants are commonly raised from seed, but not unfrequently from cuttings. It will be seen, however, by the estimate of expenses of importation, below, that they do not cost more than one cent each delivered here, and if for the expense of planting another cent be added, the cost is so small as to make it not worth while for any but nursery-men and gardeners, who deal in large quantities, to raise them originally, when only destined for ornamental planting.

The plant grows wild in this vicinity, but rather sparingly, the blossoms, however, exhale a delicious perfume, and in the early part of May, the atmosphere where it abounds in England, is sensibly impregnated with it, and the hedges are white with its snowy flowers, which are succeeded in Autumn by thick clusters of red berries, a kind and benevolent provision by the great Author of all, for the feathered tribe.

It is vulgarly called May in England, and is gathered in the first of the month, by the village lads and lasses, to decorate the May-pole around which they dance and enjoy their rural games; those conversant with our older poets, will call to mind many beautiful passages descriptive of the joys of Maying.

Invoice of two thousand Hawthorn slips, shipped for Boston from Rotterdam.

| | |
|---|---|
| 3 bundles containing, 2000 Hawthorn slips | |
| at 17 1-2 guilders, per 1000 - - - - - - - - - - | 35,00 |
| Carriage from interior, Packing, Bills of Lading, | |
| Commission, Shipping, &c. - - - - - - - - - - | 7,20 |
| | 42,20 |

The florin or guilder, is worth about 40 cents, consequently, they cost there about seventeen dollars, adding freight and expenses here, would make them stand under one cent each.

The plant is subject, however, in this climate, to the depredations of the borer. A gentleman in the vicinity of Boston has communi-

cated to me the valuable information that he has found the ashes of the Anthracite coal laid round the stems of trees some inches deep, a perfect protection against this destructive insect. As these ashes are of no other use, and in almost every house, the application is easily made.

I have heard that the seedling apricot, even as early as two years old, makes an excellent and pretty firm fence, and should much like to see a communication on the subject from any one who has given it a trial; in fact, well planted hedges are so much more sightly and in the end so much cheaper than the common stone fences, that their introduction here seems very desirable. Any information, therefore, in your Register on the subject of hedges in general, would prove interesting to the horticulturist.* T.

---

[For the Horticultural Register.]

## ON HEDGES.

HEDGES, or live fences, are becoming every day more necessary. In many parts of the country timber is too scarce for valuable fencing materials, and even in the few agricultural districts where stone abounds, the progress of cultivation, and the increasing wants of our growing towns and villages, will sooner or later cause the farmer to resort to *living* materials for fencing his lands. For the *Garden*, hedges are undoubtedly preferable to all other means of inclosure in this country, where walls are so little used or needed Their imperviousness, their durability, and their beauty surpass either the most nicely constructed paling, or the firmest and smoothest wall. And what harmonizes so well with the pleasing green of the field, or the garden, as the verdant foliage of the live fence?

What, then, is the best material for hedges? We, who are accustomed to draw a large share of our horticultural information from a

* The above article was already in type before the Editors received the following interesting communication from A. J. Downing, Esq. Had it come earlier to hand, this would have been omitted altogether, as possessing less valuable information on the subject. The writer has seen many hedges of Cydonia Japonica. They are extremely beautiful, but of very slow growth. He also begs to add that he has just received the catalogue of Messrs Prince, of Flushing, L. I., where the White thorn is quoted at a lower price than that named in his invoice.

nation older in this as in other arts and sciences, are taught to believe that the proper answer to this question is, the *English White Thorn*. But experience is teaching us that this is an error. How many millions of the English thorn have been planted in this country, and how few of them ever make a healthy and permanent hedge! The secret lies in the climate. The summers of England are *moist* and cool, when compared with ours. The powerful sun and dry climate, which bring to plentiful maturity the Indian corn, the peach and the melon, are not the sun and the climate which are congenial to the European Hawthorn. They are too fine and dry. In the moist and showery months of April, May and June, the Hawthorn looks exceedingly promising; its shoots appear green and healthy; but soon the hot July sun bursts forth, and it is checked almost as by a nipping frost. Then the insects attack it, and by the last of August the hedge is stinted and already leafless! Hence its growth is exceedingly slow, and as it is a prey to insects, which cause its decay, and to defoliation by the intensity of the summer sun, it is neither durable or beautiful. It is true, that during the first two or three years of its growth, its healthy and vigorous appearance is very flattering; but this is only whilst the plants are young, and before their interlacing roots and branches have found it necessary to attract nourishment from a limited portion of the surrounding soil.

It goes far to corroborate the opinion, that the dryness of our soil and atmosphere are the *first* causes of failure with the English Hawthorn, to find that in situations *naturally moist* and damp through the summer, it appears to grow with equal luxuriance, and to attain the same degree of maturity, as in Europe; but, as only small portions of the farm, and no good garden, will be found in moist localities, it is therefore necessary to search for some other material more generally adapted to the wants of our wide-spread territory.

There are over twenty species of *Cratægus*, or Hawthorn, indigenous or growing wild in North America alone — more than the aggregate number in the known world besides! Shrubs and trees which, for sharpness and abundance of thorns, beauty of foliage, rapidity of growth, and compactness of form, (when properly trimmed) yield to none others of the genus. Is it not remarkable, that with this abundance and choice of materials for hedges, scattered by bountiful nature through every wood, and by every high-way side, that we should have to stretch forth our hands, and borrow from another clime a starved and lingering exotic? But so it is; — and

Horticulturists, as well as other men, must gather knowledge from experience. After repeated trials and failures with the imported plant, we are now content to turn our attention to the natives. Here we find species which are perfectly hardy, and to which our sun and climate are as necessary as they are injurious to the foreign. Four species have been already tested, and found to be admirably adapted for hedges, viz: the Cockspur or Newcastle thorn *(Cratægus crus galli)*, the Washington thorn *(C. populi folia)*, and two others, only known by the common name of thorn bush *(C. coccinea* and *C. punctata)*. Of the Washington and Newcastle thorns, very fine hedges are now thriving in many sections of the country. They are found to grow with more luxuriance, to retain their fine vivid foliage through the hottest of the summer, and, in common with many other American trees, to assume an autumnal tint of the most beautiful crimson and orange, which remains until severe frosts. These two species seem to adapt themselves to almost any soil; but if not, their places may be supplied by such species as are found naturally to thrive best in the neighborhood — for almost every section of the country abounds with some species of Hawthorn. Perhaps in the Southern States, they will ascertain that some of the peculiarly southern species succeed best.

For situations where strong hardy hedges are wanted, in a short period of time, the three-thorned Acacia *(Gleditschia triacanthos)* will be found an excellent plant. Hence it is well adapted to *farms;* but from its rampant growth, it is difficult to keep it sufficiently close in its side spray properly to shelter the garden from all its enemies. Among the Hedge plants which demand the attention of the Horticulturist, are the Buckthorn *(Rhamnus catharticus)*, which makes an excellent fence; the privet, long in use, and a beautiful and verdant *inner* shelter to the garden, but not a sufficient protection against cattle; and the *Mespilus pyracantha*, or Evergreen thorn, ornamented in its white blossoms and coral berries. European publications speak in high terms of the great beauty and excellence of the Japan Quince *(Cydonia japonica)*—already known here as a charming flower shrub,—used there as a garden hedge plant. We have great hopes of success, also, with the Osage Orange *(Maclura aurantiaca)*, a native of the West; and its glossy green foliage, stone thorns, and rapid growth will place it in the first rank of hedge plants.

*Newburgh, N. J. March.* A. J. Downing.

## ROSE-BUGS.

BY DR R. GREENE.

In the years 1825 and 1826, the rose-bugs were so numerous in the gardens of the writer, as to threaten a total destruction to plants, shrubs and trees. In their three first stages — the egg, the larva, and the chrysalis state — they are beyond the power of man; and in their last or perfect stage they are only partially under our control. Our only hope was, that by some natural means, this scourge would be removed. The grasshopper and the cankerworm had been, within our recollection, destroyed in one or two seasons by some natural operation of nature, perhaps little understood.

The only effectual means of lessening the number of rose-bugs, and thereby saving the products of our labor from destruction, were, by crushing them with the hand, or shaking them into vessels partially filled with water. The latter course was closely pursued during their visitation from 1825 to 1833, eight years, with the exception, that in the year 1825 the process was not commenced in due time; consequently, not so many were caught as in the following years.

The enemy were most numerous in 1826, but from that time they diminished in numbers. I have no doubt, but that the measures which I pursued did much in thinning their ranks in my gardens, year after year, and were the means of preserving my plants, fruits, &c. In 1833, they were, by some natural cause, nearly extirminated in this vicinity. Probably the cold and wet weather in the months of May and June destroyed them, while in the chrysalis state. During their visitation that year, only now and then one or two were seen, except at one time four were observed.

Four or five years since, two species of insects, of the same genus with the rose-bug, and with like habits, visited us, and in 1832 were numerous; being voracious, seemed disposed to divide the spoil with our old enemy. One was of a dark color, and a little larger than the rose-bug; the other still larger, of a brownish color, and spotted on the back. These new insects were far more easy to destroy than the rose-bug. On shaking the vines, &c. they would fall to the ground, not attempting immediately to escape by making use of their wings. Domestic fowls would eat them with greediness. All that was necessary to be done, was to call the fowls, and shake the vines, or whatever plant on which they were found. But these

insects were nearly extirminated with their fellow depredators, rose-bugs, in the spring of 1833, and I can with much truth, sincerely say, Amen.

The following table will show the first appearance of the rose-bug in my gardens, — when most numerous, — when very few, — when last observed, — and also the quantity caught in each year.

| Year. | First appearance. | Most numerous. | Very few. | Last observed. | Quantity caught. Pecks. | Qts. |
|---|---|---|---|---|---|---|
| 1825 | June 8 | June 12 | June 28 | July 8 | say 3 | 0 |
| 1826 | " 3 | " 8 | July 9 | " 21 | 5 | 0 |
| 1827 | " 8 | " 20 | " 9 | " 18 | 1 | 0 |
| 1828 | " 10 | " 20 | " 10 | " 23 | 1 | 2 |
| 1829 | " 7 | " 17 | " 4 | " 21 | 0 | 7½ |
| 1830 | " 5 | " 23 | June 30 | " 31 | 0 | 5½ |
| 1831 | " 4 | " 16 | " 30 | " 10 | 0 | 5½ |
| 1832 | " 22 | July 3 | July 7 | Aug. 11 | 0 | 1½ |
| 1833 | " 7 | Almost exterminated. | | " 16 | none. | |
| 1834 | " 17 | Very few at any time. | | July 24 | none. | |

I have only to remark, that I have aimed at correctness.

*Mansfield, Feb.* 25, 1835.

---

## NOTICES OF THE NEWEST AND BEST FRUITS AND VEGETABLES.

[Extracted from Loudon's Gardener's Magazine for January, 1835.]

The information respecting the fruits was chiefly furnished by Mr Thompson and Mr Barnet of the London Horticultural Society's Garden; that respecting the vegetables from other sources, with a few researches and translations by the Editor of the Horticultural Register.

*Cabbages.* — Early dwarf Russian; the dwarf Portugal; as an article of luxury the new Russian dwarf Broccoli is said to be one of the best sorts.

*Peas.* — Knight's new green tall Marrow; Knight's green Marrow; Early Warwick; D'Auvergne pea, synonyme D'Auverigny, is excellent, very productive, was sent to London Horticultural Society by M. Vilmorin of Paris. An account of it was published in the Bon Jardinier for 1832, page 269, and in the Transactions of the London Horticultural Society for Jan. 1834, where may also be found a

description of M. Vilmorin's Sugar pea, stated as deserving of cultivation.

*Kidney Beans.*—Painted Lady Runner — blossoms beautiful scarlet and white, very prolific, not so tall as common scarlet runner. The scarlet long pod is an improved variety.

*Carrots.* — The purple skinned and white skinned are novelties, but more articles of curiosity than value.

*Turnips.* — Three sorts new to English gardens and of excellent quality.

1st. Navet blanc plat hâtif (Early flat white Turnip) — Small, flat, excellent flavor, comes in a week earlier than the Early Dutch.

2d. Navet rouge plat hâtif (Early flat red Turnip) — Not quite so flat as the former, nor so early by a week ; the part above ground of of a dull purplish color. The seeds of the above may be obtained from M. Vilmorin, Paris.

3d. Black Turnip — A valuable summer and autumn variety, rather larger than the Early Dutch ; globular, very firm, the outside skin dark brown, inside white ; very hardy and remains long in perfection. It was sent to the Horticultural Society by Messrs Booth of Hamburg. The writer cultivated this turnip more than twenty years ago, from seed received from a friend in Germany, where it has been long known.

*Potatoes.* — The forty fold Potato is very prolific, and said to be extremely mealy and well tasted.

*Oxalis crenata* is much talked of, but does not appear to increase in public estimation.

*Radish.* — Radis rose demilongue (medium size rose radish) is a very superior variety lately received from Paris. It is of a fine bright scarlet color,' an intermediate sort between the long and round rooted variety. Early, very productive, of excellent quality, and remains longer in perfection than any of the long rooted varieties ; it is well adapted for growing in frames.

*Celery.* — The Italian and Kentucky are recommended as the best.

*Apples and Pears.* — Almost all these sorts, and many other more valuable for this climate, may be found in the New American Orchardist, by W. Kenrick of Newton, or in the first number of our Register, pages 7 and 8.

*Peaches.* — For a small collection to ripen in the following order : Earliest, Early Ann, Malta ; next, Double Montagne, Royal Charlotte, Noblesse Royal George ; next, Grosse Mignonne, Barrington ;

latest, Bellegarde, Late Admirable. Should any of these not agree with the soil, others may be introduced, as the Acton Scot, Spring Grove, Mountaineer, which are probably hardier. The best varieties for forcing are Bellegarde, Grosse Mignonne, Royal George and Barrington.

*Nectarines.* — None are so good as Elruge and *Violette Hâtive* (Early Violet). Hunt's Tawney is considerably earlier than these; and for a later sort the Late Yellow deserves notice. In a warm soil and favorable situation the new White Nectarine will produce fruit which will not only form a beautiful contrast in the dessert, but will also be esteemed for its excellent flavor.

*Apricots.* — Red Masculine, Large Early, Royal Moor Park, Breda, Turkey, and Orange; this last is the best for preserves.

*Plums.* — Drap d'Or, Green Gage, Kirke's Washington, Reine Claude, Violette, Coe's Golden Drop, Blue Imperatrice, Coe's Fine late Red, Early Orleans, Shropshire Damson, Diamond, and White Magnum Bonum.

*Cherries.* — For standards, May Duke, Royal Duke, Late Duke, Black Eagle, Elton, Downton, Knight's Early Black, Black Tartarian, Morello, Kentish. The earliest cherries are Early Purple Guigne, Werder's Early Black Heart, May Duke, Knight's Early Black, Bowyer's Early Heart; the latest are Late Duke, Florence, Bigarreau Tardif de Hildesheim, (late Bigarreau of Hildesheim,) Morello.

*Gooseberries.* — The best early reds are the small dark Rough Red, Keens' Seedling, Later Red Champagne, Warrington and Red Warrington, Yellow Early, the Early Sulphur Yellow Champagne is later. Green, Early Green Hairy, later, Massey's Heart of Oak, Pitmaston Green Gage, this is deserving peculiar notice, in some seasons it will hang till it shrivels and almost candies on the tree. Whites, — Taylor's Bright Venus is of an excellent flavor; Woodward's Whitesmith, and Crystal. The earliest sorts are Miss Bold, Wilmot's Early Red, Green Walnut, Early White. Late sorts — Leigh's Rifleman, Bury Farmer's Glory, Farrow's Roaring Lion, Late Green, and Cook's White Eagle. The best large sorts are reds, as the Roaring Lion, Top Sawyer, Crown Bob, and Wonderful. Of the yellows, the largest are Gunner, Rumbullion, and Piggott's Leader. Of the green, Bumper, Peacock, White Eagle, and Ostrich.

*Currants.* — Best black are Black Naples and Black Grape; best red are Red Dutch, Knight's Large Red, Knight's Sweet Red, Knight's Early Red, Wilmot's New Red, exhibited last summer at

the London Horticultural Society is the largest berried variety known. Best white is the White Dutch.

*Raspberries.* — Best reds are Barnet, Antwerp, and Double Bearing Yellow, Yellow Antwerp.

*Strawberries.* — *Scarlets* — Old Scarlet, rather shy bearer, but the earliest; Grove End Scarlet is an abundant bearer; Roseberry, adapted for forcing; Gomstone Scarlet, Black Roseberry, American Scarlet, and the Coul late Scarlet which does not ripen until all the other sorts are over. *Blacks* — The Downton, excellent for preserving; Elton Seedling, great bearer, ripens late. *Pines* — Keens' Seedling is the best of all for general cultivation; Old Pine, Myatt's Seedling is a shy bearer, but with so very high a pine flavor that when Keens' Seedling sells in Covent Garden Market at sixpence per pottle, Myatt's Seedling fetches three shillings for the same quantity; it generally bears two crops each year, the last ripening in the early part of November. In consequence of this the plants soon exhaust themselves, so that they cannot be depended on either for duration or crop. Knevett's Seedling is large, prolific and very high flavored. Wilmot's Superb is very large. *Hautbois*, prolific and large flat. *Green* — The Green Pine. *Alpines* — Red, White, Redwood and Whitewood.

*Filberts.* — The Red and White Filbert, the Cosford Nut, and the Cobnut are the best.

*Pine Apples.* — Queen, Moscow Queen, Black Jamaica, Brown Sugar Loaf, Ripley, St Vincent, Black Antigua, this should be cut as soon as it begins to turn yellow, or it will lose its richness. Enville, Lemon Queen, White Providence, Trinidad; this last is the largest grown, being reported to weigh sometimes 26 lbs.

*Vines.* — To plant against a wall of a southern exposure — Early Black, White Muscadine, Grove End Sweetwater, Pitmaston White Cluster, White and Black Sweetwater, small and large Black and White Cluster, Black Esperione. For early forcing in a Vinery, the preceding, or the Esperione, Black Prince, Cambridge Botanic Garden Grape, White Muscadine, Royal Muscadine, White Sweetwater, White Frontignan, Grove End Sweetwater, and Red Frontignan. Some new varieties of grape have lately been raised by Mr Williams of Pitmaston, and the fruit exhibited at the Horticultural Society in October, 1834, which promise to be hardy and high flavored. Money's Hardy Muscat or Eshcolata seems to deserve trial. A very dark variety of Black Hamburg in the Lewisham Nursery, Messrs Wil-

mot's, produces fruit which, on account of its color, sells a little dearer than the common Black Hamburg. We expect soon to be able to announce a very superior variety of Winter Grape as introduced from Belgium.

At the meeting of the Caledonian Horticultural Society, Sept. 4th, were exhibited a seedling Plum, raised by the gardener of Robert Bruce Dundas, nearly allied to the Green Gage, but ripens on standards; two excellent seedling peaches, raised from the kernels of American kinds by the gardener of the Earl of Dunmore.

At the meeting 16th Sept. — A seedling apple and a seedling pear were shown, both considered promising; and a small branch of the Bursut apple, studded with fruit, was sent by Mr Gorrie; the tree was dwarfish and produced numerous clusters of fruit. At a subsequent meeting two seedling apples were exhibited, one raised by crossing the Golden Pippin with the Scarlet Nonpareil, the other from the pips of the Doonside. J. E. T.

---

## PINUS LAMBERTIANA.

Last spring Mr Robert L. Emmons of Elliot Street, showed me two very large cones of a Fir tree, which he stated had been brought from the Coast of California by the captain of a vessel trading in those parts.

It struck me at the time as being probably the cones of the above named enormous sized tree, discovered by Mr Douglass, and named by him after Mr Lambert, the President of the Linnæan Society of London, and author of a valuable work with magnificent plates, on the Pine family. His description is as follows, almost in his own language.

He states the usual dimensions to be from 150 to 200 feet in height, and 20 to 60 feet in circumference. The actual measurement of one which had fallen to the ground was 215 feet high; at three feet from the earth the circumference was 57 feet 9 inches; at 134 feet from the earth, 17 feet 5 inches; the trunk unusually straight, leaves four to five inches long, in fives, (that is five in a bunch,) held together by a short sheath, like Pinus strobus, rigid, (stiff,) bright green, not glossy, with minute denticulations (teeth) on the margin.

The cones are eleven inches in circumference and twelve to sixteen

inches in length; the scales lax, (loose, not close together,) rounded at apex, (upper point,) perfectly destitute of spines; seeds large, eight lines long, (a line is the twelfth part of an inch,) four lines broad, oval; kernel pleasant to the taste; wing membranous, of a dolabriform (hatchet shaped) figure, and fuliginous (smoky brown) color, about twice as long as the seed, with an innumerable quantity of minute sinuous vessels filled with a crimson substance, forming a beautiful microscopic object. Embryo twelve or thirteen cotyledons. The vernacular name in the language of the Umptqua Indians is Nat-cleh. It covers large districts in the northern parts of California, 100 miles from the ocean, lat. 43 north, and extends as far as about 40 south, at the head waters of the Multnomak river, and beyond a range of mountains running in a southwesterly direction from the Rocky Mountains towards the sea, terminating at Cape Orford of Vancouver. It does not form forests, but grows singly; the timber is white, soft, and light, and abounds in a light colored resin.

Mr Emmons having at the time kindly presented me with a couple of seeds, I planted them, and to my satisfaction one vegetated; from this and the cones, which I have lately examined for this purpose, I give the following description.

These cones measure nine inches in height, but they are apparently not finely grown; their circumference is eighteen inches; this excess over those of Mr Douglass is, however, owing to the scales being lax, and now very open. These are destitute of spines at the apex and quite smooth and glossy, with the exception of one or two of the lower rows, which are armed with a hook bent backwards; a light colored resin exudes in great abundance from the apices of many of the scales.

The seeds are oval, five eighths of an inch long, one fourth to one half inch broad, with a hard shell, the kernel of a pleasant taste. Owing to an accident I did not count the cotyledons, and did not wish to sacrifice another seed for that purpose. The wing, the shape of which is perfectly dolabriform, is about twice the length of the seed from the upper part of the cone, where they are the smallest, but the wing of those from the lower part is not more than the length of the seed. On holding the membranous wing, which is of a dull brown color, as previously described, between the eye and the light, numerous sinuous vessels were very distinctly seen, containing a dark brown substance; by soaking it some hours in warm water the fine crimson colors became quite apparent with a good magnifying glass.

My plant is yet only five or six inches high, and but few except the seed leaves (cotyledonous leaves) have yet made their appearance; therefore it is impossible to say if they come in fives with sheaths or not; a few buds now showing, certainly look much like it. What leaves there are, however, are very rigid, bright green, not glossy, and minutely though distinctly toothed on the margin. It will be observed on comparing the two descriptions that they differ in the apex of the scales of the cone, (strobilus,) and in the size of the wing on the largest seeds, but agree in almost every other character; I therefore hope they will finally turn out to be the true Pinus Lambertiana.

I regret that both my seeds did not vegetate, as I would then have certainly ventured one in the open air all the winter, being much inclined to the opinion, from the latitude of the native locality of the tree, that it will be easily acclimated here. That I have has remained since October in the cellar, and looks in perfect health.

I was happy to hear that Mr Emmons, as well as several of his friends, had succeeded in raising some plants also. Mr E. informs me that most of his damped off, owing probably to the rich, moist soil in which they were planted. It appeared to me that like most of this tribe a dry sandy earth would be more suitable; for mine, therefore, I made a mixture of one half sand and one half common garden mould. In its present young state it has sent out a tap root as much as four times the length of the plant above ground; this seems to favor the idea of its being a tree of very lofty growth.

The gentleman before referred to having liberally given me a few more seeds, I intend this spring to make the three following experiments:

One third of the seeds I shall plant as last year, just as it falls from the cone.

One third I shall file considerably round the edge of the hard shell where there is a natural division, as may be observed in the peach, almond, cherry, and other stones, taking care not to touch the *narrow end* from which the root (radicle) of the embryo will shoot, and then plant them with this narrow end downwards, so that when the kernel swells it may easily burst the shell and proceed in vegetating.

Of the remaining third I shall remove the outer hard shell altogether, and plant only the kernel, although I fear this method will expose the seed to decay before it can spring up, and will certainly lay it more open to the depredations of the insect tribe.

The reasons for these experiments will be evident to most. They

are, however, generally founded on my view of the usual operations of nature, which it would be well to imitate more frequently than is usually done. In the large natural forests, the seeds with stones or hard shells (*Achenia*) fall to the ground, are uncovered and exposed to alternate wet and dry, perhaps for two or three years; this would quickly rot the kernel, had it not the protection of the shell. As it is the shell decays and becomes soft, particularly at the natural divisions, still, however, protecting the kernel in some measure; at length it becomes lightly covered with the annual layers of leaves which fall each autumn, and these produce and maintain that state of warm moisture and nourishment in the spring so favorable to the vegetation of seeds.

If I succeed in raising these plants I shall, after retaining a few for experiments in acclimation, disperse the remainder amongst those gentlemen who, however little they may expect to see them attain maturity, will not object to plant a tree for posterity, which, as the old Scotchman told his son, "will be aye growin' while ye're asleep."

The turpentine of Pinus Lambertiana, when partially heated, loses its peculiar flavor and acquires a sweetish taste. The natives use it as a substitute for sugar. The bark is very smooth.

Of its value as timber I have of course no personal means of judging, but as Mr Douglass states it to be white, soft, light, and the trunk straight, it cannot fail to be a desirable tree for useful purposes; while its towering height above all the trees of the forest, added to the usual graceful appearance belonging to almost all the trees of this tribe, must make it highly ornamental, and should it become common here, Mr Emmons will no doubt feel much gratification in having introduced so valuable a tree into this section of the United States. I cannot omit this fair opportunity of again impressing on the minds of captains and travellers generally, the great service which a knowledge of and a taste for natural history may be; it is impossible for them to foresee the utility of facts and observations which they may collect in distant regions and which although apparently insignificant and insulated to them, are often, when combined with others and well reasoned on, of considerable importance.

Should any one who reads this visit the spot on the Multnomak river, where this splendid pine tree grows, they will find under its shade a curious shrub, of a harsh and rough look, from four to twelve feet high, with numerous stiff, rather spinous branches, very leafy, and covered with a rusty colored down; the whole plant, even with-

out rubbing between the fingers, gives out a strong balsamic odor, like that of some Balsam Poplars, mixed with a powerful astringency, resembling somewhat the smell of birch twigs. Mr Douglass has called it Rhamnus cuneatus. Rhamnus is the botanic name for Buckthorn, but Prof. Hooker, from the examination of the dried specimens, with much reason suspects it to be different, and calls it a very singular plant. It would be desirable to have some specimens both of fruits and flowering branches, and particularly seeds, that an attempt might be made to raise living plants. J. E. T.

---

## MASSACHUSETTS HORTICULTURAL SOCIETY.

SATURDAY, MARCH 14.

BOUQUET from Thomas Mason, Charlestown Vineyard: Camellia myrtifolia, do. atrorubens, do. Midlemist's red, Illicium floridanum, Vanilla, Tea Rose, Blush do. do. Undulate Rose, Sanguinea do. Azalea phœnicea, do. indica alba, do. do. purpurea, Iris sinensis, Cineraria elegans, Pelargonium Miss Maitland, do. graveolens, Correa alba, Polyanthus of sorts, Cyclamen persicum.

Bouquet, from Mr Sweetser, Cambridge Port: Phlomis fruticosa, Pæonia moutan, Cyclamen persicum, Iris sinensis, Rubus rosæfolius, Iberis purpurea, Eupatorium speciosum, Alonsoa speciosa, Viburnum tinus, Cineraria elegans, Verbena aubletia, varieties of Pelargoniums and Hyacinth.

From Eben. Putnam of Salem: a fine specimen of the new yellow Noisette Rose.

MARCH 21.

From Messrs Winship: Lady Banks' white evergreen multiflora rose, new, superb, and thornless; a climber, Double Yellow Banksia, or yellow evergreen multiflora rose, a climber; from a friend's conservatory. By order of the Committee,

JONA. WINSHIP, *Chairman.*

---

At a grand *féte* given during last fall, at Wentworth House, England, the seat of the Earl Fitzwilliam, the refreshment room was decorated with a bouquet of fruit, composed of every variety of grapes, pine apples, peaches, nectarines, &c. measuring five yards in circumference, valued at about six hundred pounds sterling.

Want of room obliges us to omit several articles in this number; among others, Horticulture in the vicinity of Boston. We cannot, however, leave unnoticed a magnificent plant now in full beauty, in the green-house of J. Lemist, Esq. of Roxbury; it is a hybrid between the Rhododendron arboreum and one of the common sorts, displaying seventeen pyramids of splendid flowers, and seven buds yet to unfold. The color is more of a purple hue than arboreum, but brighter, and no doubt like many hybrids, blossoms more freely than the parent plant. There are many showy and valuable specimens in this collection, which we hope to notice more at large in a future number, our attention on this visit having been completely riveted by the above beautiful Rhododendron.

---

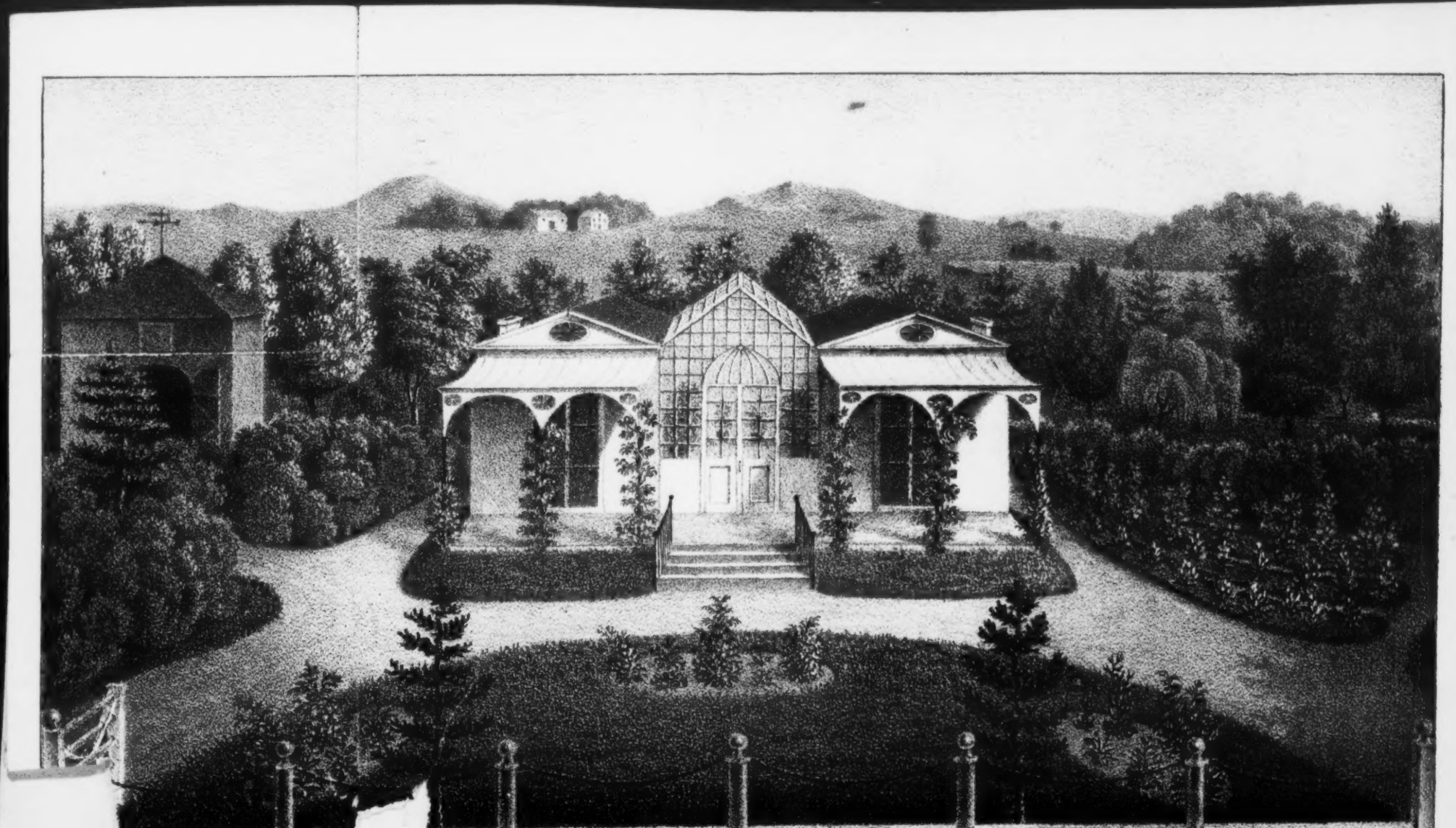
## GARDENER'S WORK FOR APRIL.

In the Eastern States, and on moist and heavy land in the Middle States, the greater part of our garden crops are usually sown in April. You may now sow such seeds as we directed to be sown in March, if the site, soil, or season rendered earlier sowing improper or injudicious. You should, on no account, plough, harrow, or dig a stiff and moist soil, while it is wet, and of course clammy and adhesive. But a light sandy soil will derive benefit from being stirred while moist.

It was well observed by Mr M'Mahon that "earth of a consistence that will hold water longest without becoming hard when dry, is that of all others the best adapted for raising the generality of plants in the greatest perfection. The great art of improving sandy and clay soils is to give the former such dressings of clay, cow dung, and other kinds of manure, as will have a tendency to bind and make it more compact, and consequently more retentive of moisture; and to the latter coats of sandy earth, pond mud, horse dung, &c. It is better, as a general rule, not to sow the seeds for the principal garden crops till the soil becomes somewhat warm and dry, lest the young plant should be frost-bitten or chilled beyond recovery.

The following are among the vegetables which you may sow this month, if the season and soil will permit. Artichoke — The seeds may be sown in a bed in such quantity that the young plants will be about six inches apart each way, allowing for accidental bad

seeds, &c. They should be covered about three quarters of an inch deep. They may be transplanted next spring in rows five feet apart, the plants standing two feet apart in the rows. Asparagus — For valuable directions relative to the culture of this vegetable, see our March No., p. 79. Beans — For Garden, or English beans, one pint of seed will be requisite for every eighty feet of row. The rows should be about two and a half feet apart, the seeds about three inches distant from each other in the rows. Kidney Beans — Plant in a dry warm soil, near the last of this month for early use; but the planting of the principal crops had better be deferred till near the middle of May. Draw drills an inch deep and two feet or thirty inches apart; drop the seeds two inches apart, and cover not more than an inch deep. Beets — A few beets, in a warm soil, but the main crop about the middle of May. For the long rooted sorts trench to the depth of eighteen inches. Sow in drills an inch and a half deep, a foot apart, or dot in the seed with a thick blunt ended dibble, in rows that distance, making holes ten or twelve inches apart and about an inch and a half deep. Drop two or three seeds in a hole, to be thinned out so as to leave but one in a place. For cabbages, see the calendar of last month. Cucumbers may be propagated according to Mr Armstrong's method, which is as follows: "Scoop as many turnips as you propose to have *hills;* fill them with good garden mould, and plunge them into a hot bed." It would be advisable, however, after your scooped turnip is filled with mould, to make a hole through its bottom like that in the bottom of a flower pot, to prevent the roots of the cucumber plant from being too much confined. You may also propagate squashes, pumpkins, watermelons, &c. in the same way. Grass sods or bits of turf may also be used as substitutes for garden pots in forwarding vegetables, according to a method described in our last number, pp. 112, 113. Carrots and parsnips may be sown as directed last month, p. 116. All the sorts may be sown, either broad cast or in double drills; the latter is preferable, allowing the roots to be drawn regularly with less waste. Rhubarb — Best raised from seed. Common culture. Salsify, or oyster plant is raised from seed or roots. It is very hardy, grows in almost any soil. It should be covered with sand or earth, pots or boxes, so as to bleach it as soon as vegetation commences in the spring. Spinage may be sown in April, broad cast. Two ounces of seed will sow a bed four feet and a half by thirty feet. In drills one ounce will sow the same space. The drills should be from nine to twelve inches apart, and the seed sown thinly in the rows.



Pendleton's Lithography, Boston